

Docket No. 265060US0PCT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Shinji SAKASHITA, et al.

SERIAL NO: New U.S. PCT Application Based on PCT/JP03/01213

GAU:

FILED: Herewith

EXAMINER:

FOR: TITANIUM ALLOYS EXCELLENT IN HYDROGEN ABSORPTION-RESISTANCE

INFORMATION DISCLOSURE STATEMENT UNDER 37 CFR 1.97

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references listed on the attached form PTO-1449. Copies of the listed references are attached, where required, as are either statements of relevancy or any readily available English translations of pertinent portions of any non-English language references.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s), published application(s) or issued patent(s) which may be related to the present application. In accordance with the waiver of 37 CFR 1.98 dated September 21, 2004, copies of the cited pending applications are not provided. Cited published and/or issued patents, if any, are listed on the attached PTO form 1449.
- ☐ A check or credit card payment form is attached in the amount required under 37 CFR §1.17(p).

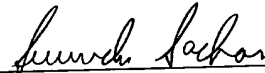
CERTIFICATION

- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check or credit card payment is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

265060US0PCT

SERIAL NO.

New U.S. PCT Application
Based on PCT/JP03/01213

10/522779

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Shinji SAKASHITA, et al.

FILING DATE

Herewith

GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA						
	AB						
	AC						
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AO	7-27884	01/31/95	JP		NO
	AP	4-143235	05/18/92	JP		NO
	AQ	6-173083	06/21/94	JP		NO
	AR	1 126 139	08/22/01	EP (equivalent of JP 2001-234266)		NO
	AS	2824174	09/04/98	JP		NO
	AT	7-3364	01/06/95	JP		NO
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	
	AX	
	AY	
	AZ	

☐ Additional References sheet(s) attached

Date Considered

Examiner

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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STATEMENT OF RELEVANCY

1) References AO-AR have been cited in the International Search Report. Copies of these references are being submitted herewith only when not automatically provided by the International Searching Authority.

2) References _____ have been cited in the corresponding _____ Search Report. A copy of these references is being submitted herewith.

3) References AS, AT are discussed in the specification. A copy of these references is being submitted here with.

4) References _____ are additional prior art known to Applicant. A copy of these references is being submitted herewith.

JP 2824174

PURPOSE: To provide a titanium material exhibiting excellent hydrogen absorption resistance in an aq. Hydrogen sulfide soln.

CONSTITUTION: The surface of a cold rolled titanium material is partially coated with titanium carbide, titanium nitride or titanium carbonitride by less than or equal to 1.0% of the total surface area to obtain the objective titanium material excellent in hydrogen absorption resistance in an aq. Hydrogen sulfide soln. The surface of the titanium material to be coated is preferably free from flaws having greater than or equal to $10\mu\text{m}$ depth and has less than or equal to $3.0\mu\text{m}$ surface roughness R_{max} . The surface of the titanium carbide, titanium nitride or titanium carbonitride on the surface of the titanium material acts as an active side and a reaction represented by the formula $2\text{H}_2\text{S} + 2\text{e}^- \rightarrow 2\text{HS}^-$ actively takes place.

JP 7-3364

PURPOSE: To develop a titanium pipe exhibiting excellent hydrogen absorbing resistance in an aq. Hydrogen sulfide soln.

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STATEMENT OF RELEVANCY

JP 7-3364 cont.

CONSITITUTION: In this titanium pipe, the films of titanium carbide, titanium nitride and (or) titanium carbon nitride are not present on the surface, the inside stress is regulated to $<8\text{kgf/mm}^2$ or (and) the grain size is regulated to 15 to $100\mu\text{m}$. When titanium carbide, titanium nitride and titanium carbon nitride are present on the surface, the surface part forms an activating point, and the reaction of $2\text{H}_2\text{S} + 2\text{e}^- \rightarrow \text{H}_2 + 2\text{HS}^-$ is vigorously generated. The inside stress and grain size are also important factors for hydrogen absorbing resistance in an aq. Hydrogen sulfide soln.